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ALBERT R. BAKER, M. D.,

AT THE OPENING OF THE

MEDICAL DEPARTMENT

OF

WOOSTER UNIVERSITY

CLEVELAND, OHIO,



WEDNESDAY, FEB'Y 27, 1889.

presented by the author

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OPENING ADDRESS MEDICAL DEPARTMENT OF
THE UNIVERSITY OF WOOSTER, FEB-
RUARY 27, 1889.

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The present is a transitional period in the history of medical education in America. Our system of medical instruction has been of gradual growth and peculiar to this country. The first physicians who practiced scientific medicine in early colonial days were educated abroad. But the supply was not equal to the demand. "In 1776 it has been estimated that there were not two hundred graduates of medicine in the country; and not over three hundred and fifty practitioners of medicine who had received a liberal education." Young men without previous medical education were taken into the office of practicing physicians, for whom they rendered such assistance as building fires, taking care of the horses, dispensing drugs; and, in the course of a few months or years, were permitted to see emergency cases and visit patients. Thus originated our peculiar institution of medical preceptors. Many of the early practitioners of medicine never attended a medical college. There were no such schools in this country, and few could make the long voyage across the Atlantic to attend the European medical institutions. And we are told that even "during the early part of this century, almost the entire body of men who entered the profession, entered through examination of one of the 'Boards of Censors,' as the examiners were called who were appointed by the state medical societies and their auxiliaries." In this way, "these societies were the principal agents in fixing the standard of medical education, and although after the establishment of medical schools, the diploma of one in good repute was accepted in lieu of an examination, this was by courtesy rather than by law." The tendency of the present medical legislation in several states is to return to methods similar to those tried in the

last century and found deficient. I hope it will prove more satisfactory in this.

The medical colleges were the natural outgrowths of the system of medical education in the preceptor's office, and, consequently, systematic courses of medical instruction were not attempted at an early period. They were not endowed or supported by the state, but depended upon the fees of the students. They, "like many institutions peculiar to America, were called into existence by the necessities of the time." Medical students would naturally seek those physicians of a wide reputation as preceptors, where they could have the advantages of a library, and possibly a few "bones," or even an entire skeleton. It was in the office of this practitioner that the student gained his first knowledge of medicine and surgery. "Here he pulled his first tooth, opened his first abscess and performed his first venesection, applied his first blister, and administered his first emetic." "His clinical lectures were heard as he rode from one patient to another with his master."

Three years of such study were necessary before entering upon practice, the same length of time required now. As the reputation of a physician became more famous, students came to him in greater numbers. Gradually his lectures, given upon horseback as he rode through the country, took a more formal character and were delivered in his office, or possibly in some public hall. This formed the nucleus of a medical school. "Several such teachers united their efforts and thus were organized the medical schools of Philadelphia and other cities." The first authentic record we have of dissections having been made, for the purpose of imparting medical knowledge, was in the year 1750, at which date Drs. Bard and Middleton, in the city of New York, "injected the blood-vessels of a body which they dissected for the instruction of several young men engaged in the study of medicine." It is quite probable that similar dissections were made prior to this date by other physicians, of which no record has been preserved.

According to Duglison, in 1754-56 a course of lectures

on anatomy and surgery, accompanied by dissections, was delivered at Newport, Rhode Island, by Dr. William Hunter of Scotland; and in 1762 Dr. Shippen, in his anatomical lectures at Philadelphia, laid the foundation of a medical school, now the University of Pennsylvania. It was organized upon the plan of the Edinburgh Medical School, and has been the pattern which all our colleges have imitated. In 1767 steps were taken for the establishment of a medical school in New York, which is now known as the College of Physicians and Surgeons. In 1782 the Medical Department of Harvard University was organized by Dr. John Warren, and was located at Cambridge, Massachusetts. The fourth medical school instituted in this country was that of Dartmouth, at Hanover, New Hampshire, in 1797. These were all the medical schools established in the United States before the beginning of this century. Thus it will be seen that the establishment of medical colleges is of comparatively recent date, and that the great mass of physicians, in the early history of the country, received their medical education in the office of the preceptor. This method of study has its advantages; while it does not, as a rule, make scientific practitioners, the medical man educated in the physician's office has many advantages over the one educated in the medical school. He has abundant opportunity for clinical observation; he is trained daily in the art of prescribing and dispensing medicines; he learns many of the essentials of a successful practitioner which cannot be gained in the lecture room or even in hospital and dispensary practice. Our patients suffer from mental ills as well as physical ones, and the secret of retaining their confidence during serious illness, or during the meddlesome interference of some busybody, can only be learned by practical experience, and this experience can be gained nowhere so advantageously as in the office of a successful practitioner. But, notwithstanding the many advantages of study in the preceptor's office, this time-honored custom is fast becoming a tradition of the past. The average medical student of to-day is not willing to sweep office, build

fires, groom horse, care for children and make himself generally useful to the doctor's family in order to pick up the few crumbs of medical knowledge which may be dispensed by the way. The increased time spent in attendance upon medical lectures leaves but little time for study in the preceptor's office. The writing of prescriptions has dispensed with much of the necessity for the student's assistance in compounding medicines. Sharp professional competition makes it necessary for the physician to give his patients his personal supervision. He can not turn them over to the tender care of the medical student as formerly. These are but a few of the reasons why the position of medical preceptor is becoming of less importance from year to year, as a factor in medical education. All endeavors to elevate the standard of medical education must take this fact into consideration, viz. : that *the medical preceptor has served his day and age and must be numbered among the antiquated institutions of a pioneer civilization.*

The lengthening of the course of lectures in our medical colleges, the preliminary terms, the spring courses, the post-graduate schools, and the increased popularity of spring and summer schools, all attest to the need of some system of medical instruction to supplant the medical preceptor. But this increasing of the length of the college term and number of courses required for graduation has only served to call attention to the defects of the didactic lecture system of medical instruction. The course of medical lectures has gradually been increased from three or four to five or six months. Most schools have made provision for a third or even a fourth course of lectures, and quite a large number of schools have made a third course a requisite for graduation. It was an imposition upon the medical student to compel him to listen to the same course of lectures twice, but to compel him to take the same dose the third or fourth time, is more than even a medical student, who is expected to patiently bear all sorts of indignities, should be called upon to endure. The remedy for this anomalous position in which the medical colleges find themselves situated is easily

found. It is the *graded course*. But the remedy is easier discovered than applied. In order to successfully conduct a three years' graded course, the number of hours devoted to teaching must be trebled; either every professor must devote three hours a day to teaching, whereas formerly he gave but one, or the number of teachers must be increased threefold. In the former case the college must be endowed, or the fees greatly increased, as but few teachers could give the amount of time requisite for the merely nominal compensation which the average medical college professor now receives. In the latter case, if a sufficient number of teachers are employed, the quality of the institution must suffer from putting inferior men in the responsible position of teacher. A few years since the announcement of the Medical Department of the University of Pennsylvania, a graded school, contained one hundred and thirty-one names of professors, lecturers and assistants. The same year the announcement of Jefferson Medical College, an ungraded school, contained less than twenty names of professors, clinical assistants and other instructors. These two announcements illustrate very graphically the requirements of the two systems of education as to the number of teachers employed.

It is pleasing to note that those schools which have adopted the graded course of instruction "have every reason to feel gratified at the results attained." I believe that it is only a question of a few years until every medical school will be obliged to adopt a graded course of some kind in deference to public opinion.

The late Professor Gross, speaking of the class of 1877 in Jefferson Medical College, says: "It is lamentable to think how imperfect the whole system of medical education is in this country. Our students are driven from one lecture to another, hour after hour, like so many cattle, and the wonder is that when they come up for their final examination at the close of the session, they have any knowledge at all of a fixed or definite character. The fact is, much of what the student is taught in the early part of the session is knocked out of him before the close. He gets a daily surfeit from the

beginning to the end, and the consequence is that his knowledge is vague and imperfect in every branch of his studies."

"Of the two hundred and three candidates for graduation, fourteen were suspended. They were re-examined and all passed but five!"

In a recent address on surgery as a science and an art, Dr. Frothingham of Ann Arbor said: "Didactic lectures, instituted in the days when books were few and costly, by the power of conservatism, have already held their place of prominence longer than they should. They have outlived their period of usefulness, and seem to serve for the entertainment of indolent students more than they do the purpose of thorough education in such a branch as surgery."

Dr. Dutton, previous to this, asked, in *THE CLEVELAND MEDICAL GAZETTE*, "whether the time has not fully come when the attention of the medical profession should be called to methods of medical teaching. In all our colleges didactic lectures occupy the time for the most part. Clinics and quizzes are sandwiched in, but the published time schedules, which fairly represent the plans pursued in all or nearly all the courses of study, show that lectures (so-called) are the sources from which the student is expected to acquire professional knowledge. On five and sometimes six days of the week he is required to listen to these from four to seven hours daily, with the exception of the few minutes allowed between lectures for change of teachers or lecture rooms. Why should medicine be taught in this miscellaneous way, while in all other departments of scientific instruction primary importance is attached to classification? May it not be proper also to enquire whether it is profitable for any student, of whatever mental capacity, to pursue so many branches of study at once? Those most familiar with teaching tell us that three solid studies are as many as can be pursued at once in other schools, and the courses of studies in our scientific and literary institutions everywhere are arranged on this plan. By what principle do we make medicine exceptional in this respect? Might not the professors in our medical colleges learn much to their profit by consulting

more frequently those who have studied more specifically the principles and art of teaching? More lectures are given now than formerly, where fewer might be better. The stuffing processes are the same now as ever. The student is seldom expected to *prepare* a lesson. He has no time. He often cannot know the topic even of the next hour. Nor has he time to review carefully a lecture after he has heard it. He frequently does not so much as own or have access to the books which treat of many subjects presented to him. His preparatory studies with his preceptor have, in most instances, been pursued also in a desultory way. Preceptors *precept* very little, and the facts are that medical students, as a rule, from the time they enter a preceptor's office until they are honored by their M. D. degree, have little opportunity to receive careful, methodical, scientific teaching."

If the time has come when the preceptor must go, when the didactic lecture must go, what system of medical education must be adopted? I think that it is the belief of everyone who has given the subject much thought, that most subjects, such as chemistry, anatomy, physiology and materia medica, should be taught by recitations, laboratory work and "quizzes," the same methods that have proven most satisfactory in other educational institutions. The course of instruction must be increased from five or six to ten or twelve months, and not less than three years of such instruction must be necessary for graduation. Clinical teaching must be made a more prominent feature in all our medical schools.

Such a radical change as this contemplates cannot be made at once. It must be of gradual growth. It will require greater facilities for laboratory, microscopical and experimental research than medical colleges now possess. It will necessitate a large corps of teachers who devote their entire time to teaching. This will necessitate large endowments, such as none of our medical colleges now have. If this, then, be true, we cannot at once give up all that has proven of value in the past; we must make the best of such material and advantages as we have at our command.

Dr. Billings says that, in the discussion of medical education, "it seems to be often assumed that all physicians should have the same qualifications and be educated to the same standard, which, in one respect, is like saying they should all be six feet high, and, in another, is like the army regulations which prescribe the same rations and allowance of clothing for Maine and Florida, Alaska and Oregon. A young and energetic man, who has spent six years in obtaining a university education and four more in the study of medicine as it ought to be studied, that is to say, in preparing himself to study and investigate the rest of his life, will not settle in certain districts. He has invested ten years' labor and from five to ten thousand dollars, and a locality which will give him a maximum income of perhaps fifteen hundred dollars per annum will not be satisfactory; in part, because the capital should bring a better interest, in part, because he will have acquired tastes which will make his life unpleasant in such places. Yet these places must have physicians of some sort, and it is not clear as to how they are to be supplied if some of the universal and extreme reforms in medical education which have been proposed are to be enforced."

The old system of medical preceptors and didactic lectures has not proven a complete failure, notwithstanding all that has been said against it by friends and enemies alike.

The medical profession in the United States compares favorably with that of other countries, in which the period devoted to medical study is from four to twelve years. "We have reason neither to boast nor to be ashamed of what we have thus far accomplished, and we may begin this new era in the hope and belief that to us applies the bright side of the maxim of Cousin, 'It is better to have a future than a past.'"

As long as it is possible to secure such enthusiastic, successful teachers as Gross, Flint and Delamater, the didactic lecture will occupy a place—probably a minor one—in the curriculum of medical study in our medical colleges.

At this transitional period in the history of medical edu-

cation, there is a place for the spring and summer medical school, such as only the Medical Department of Wooster University and one or two similar schools now fill. Many medical students have found their study in the preceptor's office unsatisfactory. The usual medical course of five or six months has left him no means of pursuing his medical studies except in a sort of desultory reading, such as he may be able to do at home. Whether the spring and summer school has come to stay, and thus solve the problem of increased length of college year, or whether it is only a stepping-stone to a full year's course of medical instruction, I can not say.

Among the many changes wrought in the requirements of a medical education, is that of not making a written "thesis" a requisite of graduation. When the only method of instruction was the didactic lecture, and the only examination an oral one, the faculty had no adequate means of estimating the fitness of a candidate to receive a medical degree.

The "thesis" gave some clue as to the applicant's knowledge of English grammar and orthography. It also, if honestly written, gave an opportunity to judge of many other qualifications of the student. But as the theses were written merely as a formality necessary to graduation, they deserved the just criticism of Dr. Gross, who said that "not one in fifty affords the slightest evidence of competency, proficiency or ability in the candidate for graduation." This being true, and written examinations having been substituted for oral ones, it is very easily understood how the "thesis" should fall into disrepute; yet I think the colleges are making a great mistake in giving up this important requisite of graduation. If the "theses" were printed, as in European schools, the strictures of Dr. Gross would not prove true. Then, there would be every inducement for the student to do his best. There would not be much danger of deliberate plagiarism when he knew that his friends, medical men, the public and the press would be his critics, instead of one professor, who, in all probability, would not

read it. The publication of "theses" in this manner would have "a permanent historical value; they would reflect the character of the teaching, and would serve to stimulate the student to make original research."

Before medical journals were established, a number of valuable "theses" were published in this country. At that time, it was permissible for a professor to "prefix a statement, not to exceed sixteen pages, as an introductory notice to a 'thesis' of a student." It was not necessary that the introduction should have any connection with the one discussed in the student's paper. Sometimes the professor would continue his subject through twenty or thirty dissertations, so that many of them are not wholly preserved. This is one of the few ways in which a physician of that time could make a record of his observations. "If a country doctor wished to make a communication to his professional brothers in those days, he was obliged to print it in a pamphlet form at his own expense, or else send it to some one connected with either a medical school or with some scientific society, and trust to his making it known for him." This was the day of big books, and if a physician did not wish to write a volume, there was little inducement for him to attempt literary work.

"Boerhaave, one of the most remarkable physicians of the eighteenth century, and one of the most voluminous contributors to the medical literature of that period, left an elegantly bound volume at the time of his death, which stated on its title-page that it contained all the secrets of medicine which a physician need know. Upon opening the book it was found that all the pages were blank except one, which contained this sentence: 'Keep the head cool, the feet warm and the bowels open.' " You will find before you complete your medical studies that there are *more* secrets for the physician of the nineteenth century to learn than were contained in this legacy of Boerhaave, if none better.

Now, ladies and gentlemen, I presume, to be in fashion, I should put on a long face, and in a deep and sepulchral voice inform you that you have made a grave mistake in

commencing the study of medicine; that the profession is overcrowded; that actual starvation stares you in the face; that it were better not to have been born. This is all nonsense. There are worse professions than the medical. It is true there are many unpleasant experiences in a doctor's life, but the same is true of every occupation. It is also true, that barely half of you will follow the practice of medicine as a profession. Some of you will become lawyers, others preachers, others missionaries, others newspaper men and many of you will enter mercantile pursuits. But what if you do? What have you lost? The knowledge you gain in the medical school is the most valuable you can have. It was Dr. Dick who said, "It is somewhat unaccountable and not a little inconsistent, that while we direct the student to look abroad over the surface of the earth, and survey its mountains, rivers, seas and continents, and guide their views to the region of the firmament, where they may contemplate the moons of Jupiter, the rings of Saturn, and thousands of luminaries placed at immeasurable distances, and yet we should never teach them to look *into themselves*, to consider their own corporeal structure, the numerous parts of which they are composed, the admirable functions they perform, the wisdom and goodness displayed in their mechanism and the lessons of practical instruction which may be derived from such contemplations."

Agésilas, king of Sparta, when asked what things a boy should learn, replied, "Those which they will *practice* when they become men." If this was good advice given to the youth who dwelt upon the shores of the Ægean sea, two thousand years ago, it is even more so, still, to the young men who dwell in this fairer land of ours.

It is remarkable what a beneficial influence a medical education has in strengthening the physical, mental and moral stamina of a young man. I think the young men who commence the study of medicine are not above the average in these attributes. In fact, if we are to believe the recent statements which have been made as to the pre-

liminary attainments of medical students, they are quite the opposite. Yet I think no one will question the statement that the members of the medical profession are the peers of those of any other. They have a keener perception of the fitness of things. They may not have a great veneration for religious dogmas, but they have an acute sense of right and wrong. There is a subtle something that lends dignity and strength to the character of those educated in medical colleges, not found elsewhere. In just what this consists, I am not able to say. Those of you who, after completing your medical education, enter upon other pursuits of life, will never have occasion to regret the time and money spent in the medical school. The knowledge gained *about yourself* will prove ample reward. There are in every community a number of successful business men, who have been regularly educated in medical schools. I have never met one who regretted the time spent in medical study. I have met some who did the time spent in medical *practice*.

Those of you who are destined to become the physicians and surgeons of the future, are on the dawn of one of the brightest periods in the history of medicine. You will have the pleasure of reading some of the most wonderful books ever written. None of them have been completed. One of the most interesting will be on the subject of bacteriology. Only the first few pages of the introductory chapters have been written. It remains for you to write the book itself and tell us what influence these germs have upon the economy. Are they the cause of disease or only the result? One of the works, even more important than that on bacteriology, is that on ptomaines. Of this great book even the introduction is not written—only a few detached lines here and there, and these in foreign tongues.

There have been many additions to the ponderous volume on therapeutics. It is wonderful to think what has been done in the past five years, even since some of you commenced the study of medicine. Cocaine has revolutionized the practice of eye surgery and diseases. New antipyretics have been introduced in such numbers that we are left all at

sea as to which to use in the treatment of fevers. Acetanilide and other similar preparations promise to supersede the use of opiates in the treatment of painful affections. Time forbids me to more than mention the advances of modern surgery. This book is much nearer completion than those in other departments of medical progress. The introduction to this work is complete and many chapters written, yet there is much for you to do. The greatest book of all is barely commenced, and that is the one on "Preventive Medicine." It may be there are young men before me now, destined to make discoveries rivaling that of vaccination.

Who among you will discover some certain means of preventing the ravages of consumption, diphtheria, scarlatina, measles, typhoid or yellow fever? He who does will have his name placed alongside of that of the immortal Jenner, and will be remembered when that of Alexander the Great and Napoleon are forgotten.

If, then, you are about to lay the foundation of a professional life with such boundless possibilities, make them broad and deep, and it may be your good fortune to add a few pages to these wonderful volumes that will serve to add to the happiness of the race.

Whatever niche you may occupy, always remember that yours is a good and noble profession, and never permit yourself to degrade it to a trade.

The medical profession is the best profession, the worst trade. As a profession, the physician attends medical societies; he establishes medical schools; he publishes medical journals and books. As a trade, he publishes quack advertisements in the religious newspapers; he compounds secret nostrums; he promises no *pay*, no *cure*. As a profession, he attends sanitary conventions; he spends his best time and money in discovering the cause and the best means of preventing disease. As a trade, he magnifies small ailments; he caters to the ignorance, prejudices and superstitions of the people, and charges big fees for curing diseases which have no existence except in his fertile imagination. As a profession, he educates the medical student; he com-

municates to him all the knowledge which years of study, investigation and experience have taught him, so that the young man may practice intelligently and well; he endeavors by every legitimate means to elevate the standard of medical education. As a trade, he obstructs medical progress; he retards beneficial medical legislation; he cares not for the good of the people; no scheme so foul, no practice so low, but that he will undertake it to fill his pocket with money; he will violate every sacred bond of humanity; he will transgress every law of the land; he will sin against himself, his patient and high heaven for a few paltry dollars. As a profession, when the physician makes a valuable discovery, he hastens to publish it in the medical journals or announce it to the medical societies, where it will do the people the most good and himself the most harm financially. If he invents a new instrument, instead of patenting and making a fortune out of it, he straightway puts it into the hands of the profession, without money and without price. He is animated by the same professional spirit when he meets a case of diphtheria, typhoid fever or other preventable disease; he spares no time or labor or expense to find the source of the disease and remove it, and thus lessens his already meagre income. Instead of one case of typhoid he might have had a dozen.

It is ever thus the physician is constantly laboring to prevent those diseases he is paid to cure. He educates young men to enter the profession only to take the practice he has so laboriously established. Judged by any trade standard, the members of the medical profession are either fools or madmen! But let us thank God that the practice of medicine is not a trade, but a grand, good and noble profession, of which it has been said, "it is the flower of our civilization, and when that stage of man is done with, and only wondered at in history, he will be thought to have shared as little as any in the defects of the period, and exhibited most notably the virtues of the race. Generosity he had such as is only possible to those who practice an art, never to those who drive a trade."